**2.1– Operations on Decimal Numbers**

Name:\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson Focus: Mathletes will be Adding and Subtracting Decimals Today!!!**

FIRST:

* Before actually performing addition and subtraction of decimal values, we need to work on estimating
* Estimation provides us with a ‘ballpark’ figure so we can check our answer

Example 1

* Victoria and Justin want to visit Winnipeg for Christmas break to experience extreme cold and then fly to Jasper to enjoy soaking in the hot springs . The actual distances are given below:
* Victoria estimates that the total trip distance is about 1700 km, while Justin estimates the distance as 1400 km

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Winnipeg to Minnedosa | Minnedosa to Yorkton | Yorkton to Saskatoon | **Saskatoon to Lloydminster** | **Lloydminster to Edmonton** | Edmonton to Jasper |
| 209.5 | 257.9 | 341.7 | 274.3 | 247.8 | 360.4 |

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* Estimate your own value for the trip distance
* Feel free to estimate as closely to the value as you feel comfortable, but you should be able to perform the calculation in your head!
* My Answer:

Estimation Methods:

* There are two main estimation methods
* Front-end estimation uses only the first number in each value and rounds the remaining values to zero
* Relative-size estimation looks at the leading and second digits to round the values before estimating

Example 2:

**Estimate 81.95 + 12.50 + 29.30**

Front End:

Relative Size:

Example 3: Placing Decimals Using Estimation

* Place the decimals in each of these answers using estimation (do not calculate them)
* 423.6 - 107.2 = 3 1 6 4 0
* 7.85 + 2.06 + 4.123 = 1 4 0 3 3

Adding and Subtracting Decimals

* We use column addition and subtraction to add and subtract decimals
* The reason for this is so that we can align the decimal places

<http://www.youtube.com/watch?v=JEKhvrND-kE>

<http://www.youtube.com/watch?v=V6pZyY6mM3g>

Example 4

Add the following

1. 3.2 + 6.8
2. 4.51 + 1.76
3. 9.1 + 5.04

Subtract the following

1. 8.57 – 3.12
2. 4.07 – 2.64
3. 10.3 – 7.06

PROBLEM SOLVING!!

1. Stephanie has $5.50. After school she purchases some gum for $1.29 and a rootbeer for $1.79. How much money does Stephanie have left?
2. Hanna went for a visit to the Calgary zoo yesterday after school. She was up pretty late at night and will probably need to go to bed fairly early tonight…I’m thinking 6:00! When she was at the zoo, she bought ice cream for $3.55 and bought a bottle of Coca Cola for $2.19. At the gift shop she bought some turtle stickers for $8.11 as a gift for her neighbour. How much money did she spend at the zoo yesterday?
3. Make up your own Problem that requires us to add or subtract decimals and find out the solution.